BUDDLEJACEAE
A NEW FAMILY FOR GALAPAGOS

by

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During a recent survey of the vegetation on Floreana Island by Jonas E. Lawesson, resident botanist at the Darwin Research Station, Yolanda Carvajal, scholarship student, and Halle Zederkof, field assistant, some unfamiliar tallish trees with many small, fragrant, yellow flowers were found in the area of Cerro de Naranjos (Orange-trees Mountain). The population of this tree seemed to be well adapted to the higher more humid part of the island, even though it was surrounded by the introduced common guava. Later the same species was also found in the area east of Cerro Pajas, close to the Wittmers' farm, in a *Scalesia pedunculata* forest. The species is *Buddleja americana* L., of the Buddlejaceae, a fairly common plant on the continent, occuring from Mexico to Bolivia and on some Caribbean islands (Norman 1982). *Buddleja* is not mentioned in the Flora of the Galapagos Islands by Wiggins and Porter (1971) and in fact represents a new family for the archipelago. The only other collection of this species from the Galapagos was made near the Wittmers' farm by S. Itow of Japan in 1970. Itow's collection is in the herbarium of the California Academy of Sciences. His finding has not been reported previously (pers. comm.).

It is strange that this species was not collected prior to 1970, as older settlers report that this *Buddleja* was already quite common some 50 years ago (F. Cruz. pers. comm.). Apparently Floreana has never been sufficiently investigated by botanists, although several endemic and interesting species grow there, such as *Lippia salicifolia, Psychotria angustata, Scalesia villosa* and *Lecocarpus pinnatifidus.* It would seem that *Buddleja* was simply overlooked by earlier visitors.

Whether the *Buddleja* is native to Floreana or not is difficult to say. As is the case with so many species in Galapagos, the route by which they arrived in the archipelago is open to speculation. In some cases it is almost impossible to say whether the plant came by natural means (floating, by wind or carried by animals) or was introduced by man. Examples of such doubtful cases are *Sapindus saponaria, Solanum erianthum* and *Trema micrantha.* Floreana was the first island to be colonized by man (Hickman 1985) and *Buddleja* could have been introduced accidentally with soil, etc., by early settlers. *Buddleja americana* is not known as an ornamental. On the contrary, in the southern provinces of Ecuador it is a weed, invading pastures and therefore eradicated whenever it appears (F. Cruz, pers. comm.). Thus it seems unlikely that *Buddleja* was introduced deliberately.

There is a strong probability that *Buddleja* is native to Floreana, i.e. it was transported from the South American continent to Galapagos by natural means. Supporting this view is the fact that the fruits and seeds of the *Buddleja* on Floreana are commonly eaten by the local finches, such as the Small Tree Finch *(Carmarhynchus parvulus),* Medium Tree Finch (C. pauper) and Warbler Finch *(Certhidea olivacea).* Moreover the seeds are easily spread by wind as they are only about 1mm. long, fusiform with short wings at the two extremities. In fact *Buddleja americana* is the most widespread of New World Buddlejas, occurring naturally on islands such as Cuba and Jamaica. That *Buddleja* appears to be limited to one island in the Galapagos may indicate that it is a fairly recent arrival which has not had a chance to colonize suitable habitats on other islands. In any case, the record adds a new family to the flora of Galapagos.

The fact that such a large plant as *Buddleja* was overlooked stresses the necessity for further botanical research on the island. Many more interesting findings and surprises might come to light. However, unless active conservation measures are instituted, the possibility of further botanical research on Floreana may soon disappear. Because of the serious problems caused by introduced plants and animals, which threaten the local flora and fauna (Cruz et al. 1986), the situation on the island is alarming. Something must be done now if the island's native biota is to be saved.